Blood and the public body: a study of UK blood donation and research participation

This paper draws on interview and ethnographic data to describe donor accounts of blood donation in England, and how this contrasts to their responses when invited to also participate in two associated public health research studies. Donor views about usual blood donation combine the general, if flexible, theme of altruism with powerful notions of the social collective, giving rise to the sense that they are making tangible, physical ties and constructing a social body through the act of donation. However, their accounts of research participation are more open and ambiguous. At the core of this is the sense that they do not know what exactly they are ‘giving’, since the research is ultimately about collecting information, rather than substance. Equally, the donor-participants are not sure who they are giving it to, since they have no sense of the social collective that potentially might benefit from the research. The paper argues that the concept of ‘the population’ in public health is not only a term that is alien and abstract for the blood donors, but increasingly is a post hoc category for large-scale epidemiological studies. As a result, rather than supporting the obvious assumption that individual bodies make up populations, in practice, particular population renderings determine the nature of individual bodies. In so doing, the need to address ideas of ‘the social’, as distinct from ‘the population’, is increasingly unnecessary in much of public health research.

# Introduction

This paper is about blood. Or rather, it is about the flow of blood via the voluntary UK blood donation service. Many others have famously written about this, of course – notably Titmuss (1970), whose work has set the reference point for most studies since. Titmuss argued that blood donation in the UK is characterised by a strong motive of altruism derived from a sense of national solidarity and that therefore donation should always remain voluntary in order to protect these civic values. Since its publication, discussion has drawn on more general debates about gift-giving and the extent to which it can be contrasted with commodity exchange (Busby, 2004; Mahon-Daly, 2012; Wynne Busby, 2010), the significance of social relationships (Carsten, 2013; Simpson, 2009) and the accompanying flow of invisible goods alongside, and sometimes counter to, tangible goods – whether these be direct, indirect or imagined (Copeman, 2009). Alongside references to giving and donating, the multiple cultural meanings of blood as a special kind of substance have also been highlighted to indicate how ideas of kinship, belonging and purity are all still central to the way many donors reflect on their motives for donating regularly.

A range of recent developments, including biotechnological advances, the rise of transnational market of blood products, controversies with parallel tissue and organ donation activities, and changes in state regulation and legislation, have challenged any single notion of reciprocity or exchange (McLean & Poulton, 1986). In addition, a second area of debate raised in relation to Titmuss’s original thesis is the extent to which his somewhat simplistic and historical view of society is applicable to the contemporary UK context. Indeed, the very idea of a single sense of society associated with public health is now questioned by many, who view forms of sociality as much more fluid and multiple, as people adopt different identities and allegiances in different social contexts.

In this paper, however, I want to focus on a new development – the potential use of routine blood donation service as a means to collect samples for public health research. As part of the blood service’s own long-term aims, it states that it will not only ensure the supply of blood for the NHS, but also evolve into a leading evidence-based and research-led health organisation (NHSBT, n.d.). As such, it is perhaps illustrative of the more general development of every NHS patient becoming a willing research subject, and the idea that data from multiple and diverse sources might be linked together for health gains. This growth of ‘experimentality’ (Petryna, 2009) and the observation that research participation is often assumed to equate to better health care has led to theoretical discussion about how this relates to such concepts as biosociality and biological citizenship (Tutton & Prainsack, 2011). The term ‘biovalue’ is frequently used to track the ways in which both biological material and associated data have become a resource in and of themselves, and increasingly distinct from more usual rights and ethical considerations associated with personhood (Waldby & Mitchell, 2006). What is significant is the extent to which this kind of value emerges from its separation from individuals, and thereby is subject to different commercial, legal and ethical framings.

As a result, these two acts – blood donation and research participation – may have overlapping but distinct logics underlying them and that ideas of value embedded in how donors talk about donation may well contrast with the drive to recruit them as trial participants. Enroled as a social scientist involved in two related studies collaborating with the National Health Service Blood and Transplant (NHSBT), my primary role was to conduct interviews with a small sample of participating donors and conduct some direct observations of donor sessions. The first study was primarily designed to test the logistics of such a collaboration – in particular, how the collection of measurements and blood samples might be successfully integrated within the usual, highly organised, donation sessions (‘Cambridge CardioResource’, n.d.). The second, and ongoing, study is a more extensive trial involving 50,000 participants to investigate the clinical effects of donating blood more frequently, in particular iron depletion and anaemia, with the aim of individually tailoring the intervals between donations to ensure blood stocks are never depleted (‘INTERVAL Study’, n.d.). More long term, the idea is that such a collaboration will offer a relatively cheap and efficient way to establish a large database for future epidemiological studies into associations between particular biomarkers and measures of current health status. Just as significant as the size of the potential data-set (each year 1.4 million people – approximately 4% of the population – donate) is that fact that the specific use of the data is not yet determined. This open-ended imperative suggests that much of public health research is shifting to a form of ‘open experimentality’: that is, the normalised participation in research not tied to a particular project or hypothesis, but rather the collating of multiple forms of data for post hoc mining.

Twenty-six interviews were conducted with participants ‘on site’, in seven different village halls and community locations, across the East of England region extending to parts of Greater London. These mobile sites ranged from relatively small operations, consisting of only a few beds and attracting a local rural population, to a large Local Authority venue where there was constant throughput of donors over the course of a day. Written and verbal consent was given for audio-recording and transcription. In addition, use of ethnographic observation was ratified within the overall REC approvals, and both myself and other research colleagues made my presence clear to the donor staff. Potential interviewees were approached before donating and then interviewed directly afterwards in any room or private space that donor staff could provide. Often against the background of pop music, which is routinely used to mask confidential conversations between staff and donors, interviews were relatively informal and consisted of just a few open-ended questions about blood donation and trial participation. As a result, this ad hoc sampling was simply pragmatic; rather than claiming the views are representative of particular donor groups, the strength of this study is in raising some general themes that emerged. However, there is no doubt that important differences – for example, associated with age and ethnicity – may exist which cannot be addressed here.

One of the main problems with any qualitative study that relies on access to people who are already research participants is that it is not possible to directly access those who have already refused to participate in the main studies. However, it soon became clear that even those who had agreed to take part in the main trial had reservations about participating and were able to talk about these quite lucidly. In the descriptions and argument that follows I have therefore made the general assumption that these somewhat reticent and negative accounts might reflect at least some of the views of those people who had refused to take part in either the CardioResource or INTERVAL study, but fully recognise that this remains conjecture and therefore is a weakness in the current paper.

# Populations and bodies

The overarching theme of this paper is that public health is not merely concerned with intervening on the public, but that it constructs its objects – notably populations and bodies – in such ways as to be amenable to research strategies and ultimately health interventions, and how this might influence how donors engage with, and imagine, what they are contributing to. By that, I do not wish to repeat the argument that the meaning of the body is culturally determined – but rather that what is taken to be the body is the result of material and social practices. It may seem an obvious point to say that bodies make up populations. But the idea of the population is a very particular variant of a social collective. The concept has been mobilised as a technology to investigate, control and intervene on the health of people (Curtis, 2002). For example, drawing on a general historical overview of the rise of new, large densely populated areas in the eighteenth century, Foucault explores how institutions, academic disciplines, and technologies of data collection – such as in terms of norms, averages, distributions – all served to assist the knowing, and hence the informed control, of people conceived en masse (Foucault, 2007).

The very same notion of the population has come to define what constitutes public health. But the overarching project to promote health at the population level is commonly interwoven with a further orientation that assumes that in many instances investing in research and intervention across the population is likely to have a far greater health effect than specifically targeting those individuals who ostensibly manifest disease (G. Rose, 1985). Although of insignificant advantage for almost every individual, this nevertheless can produce a great health gain for the population, giving rise to what Rose referred to as the ‘prevention paradox’ – that an intervention might have great benefit to the population, but be negligible for the individual. But the effective substitution of public for population is worth dwelling on – not merely because they conceptually mean different things, but because this transposition is strategically necessary for public health practitioners to conduct research, make facts and conceive of interventions in very particular ways. Not only does it mean everyone in a population is the subject of public health but that a particular conception of individuals and their bodies by which to conduct research and imagine potential interventions. The point is that in the practice of public health, populations actually make bodies, not the other way around.

The social sciences have often been guilty of assuming that biological bodies are natural entities upon which social and cultural meanings are built (see e.g. Douglas, 1970). In this vein, 25 years ago in the seminal paper The Mindful Body Lock and Scheper-Hughes described the body through three perspectives: the individual body; the social body; and the body politic (Scheper-Hughes & Lock, 1987). By emphasising how biological bodies invariably carry social meaning as well, the authors argue that each of these bodies is a potential site for social science to be done as discrete projects. More recently, Armstrong has similarly contrasted notions of the body derived from the Durkheimian tradition with those derived from Darwinian biology, paying attention to the different causal and temporal accounts that each draw on (Armstrong, 2012). He ends with a word of caution in response to recent calls to embrace the apparent turn to the social in various fields of biology, such as epigenetics and neuroscience (Meloni, 2013), suggesting that such engagements might in practice subordinate the sociological body within the Darwinian.

However, one of the problems with suggesting the biological and social should be distinct, and evoking any version of ‘homo duplex’, is that the individual biological body and the social body remain resolutely disconnected, or perhaps worse – merely metaphorically associated. In contrast, I therefore want to illustrate one way in which what might be termed the social, or public, body is constituted through physical connections and material substance. In recent years, many have argued that a sense of national solidarity underlying a straightforward conception of biopolitics of a population has been replaced by a more shifting form of governance based on ephemeral social allegiances produced by cross-cutting forms of biosociality (N. Rose, 1996). This suggests that the ‘public’ in ‘public health’ is no longer associated with the population, but rather with various populations, produced not by an overarching geographical frame, but rather specific forms of biological commonality. It is precisely this issue that calls us to engage and account for the differences between persons and public, and individuals and population. Beyond the powerful image of blood circulating between bodies across a national landscape, taking Latour’s provocative call to conceptualise the social as including all non-humans as well as humans that make up a collective (Latour, 2005), a wide range of tangible connections includes a vast array of material practices associated with blood donation. By pointing to these as all components of what might be termed ‘the social’, they correspondingly interfere with any clear division between the social body and the body of the biological individual.

# Blood service and regular donating

A 57-year-old man comes in to donate blood at a local community hall in East London. Plastic chairs have been stacked to the edges, and there are still posters on the walls announcing the next dance classes and amateur dramatic shows. But the space has been temporarily occupied by blood service staff who use the same set up at every mobile site they go to each day. There is a waiting area, reception table where a basic questionnaire is distributed, a circle of beds head-to-tail in the centre of the space for the actual donation, and a collection of chairs around a table where people can have a cup of tea and biscuits or crisps afterwards, before they go. A few partitions have been erected to ensure there is some rudimentary privacy at different stages, and pop music is playing to help ensure no confidential conversation is overhead by others. The man queues at the reception table, where he is asked by a member of staff to fill out a questionnaire which asks such things as whether he has been abroad, had a tattoo or acupuncture in the last 4 months, or had sex with another man in the last 12. After consenting, he is given a finger-prick test to check that he is not iron deficient, and then waits again before he is transferred onto one of the beds in the centre of the hall that has just become vacant.

The UK blood service is a remarkably autonomous and complex organisation. Arising both from its historical origins after World War Two and its alliance with the concept of a free national health service, it has developed a specific place in the social imagination that can be summarised by the leitmotif ‘vein to vein’. Although there have been matters of public controversy over the years (such as problems with imported contaminated blood, debate over excluding donors who are linked to male-to-male sex, and concern over the selling of blood products abroad) people nevertheless generally see the service in very positive terms. As a female donor, who had been giving blood for over twenty years, explains:

For me, giving blood has always been about ‘doing my bit’. I just have always done it, whenever they are here locally. It just feels like the right thing to do, something that is free, and that can help others.

The service tends to be talked about in very particular ways, drawing on a range of associations and representations, such as the provincial atmosphere of local mobile centres based in small local community halls, the friendliness of the staff, the cup of tea offered afterwards and the ability to give blood in a direct manner that will save someone’s life.

But in reality, this is a very partial view of the blood service, even if it is one that NHSBT itself is happy to maintain. Although ‘saving a life’ remains its central slogan, and images of local mobile centres help to reproduce the idea that the service itself is intimate and intrinsically community-based, in practice, it is a vast organisation that draws on a complex infrastructure in order to ensure blood stock remains stable. As well as the 5000 local mobile centres, there are 25 large fixed centres in urban areas, a number of large facilities distributed nationally where the blood is processed and stored, over 6000 staff and an array of vehicles to connect all these together on a daily basis, as blood is transported around the country every night. The operation reflects its military origins; the service is strictly hierarchical, with every role precisely detailed in large ring-binders setting out the operating procedures for every aspect. Thus, its organisation is complex and highly tuned – there are protocols for every facet, from setting up a centre in the morning, through to how to take consent, to the storage and dispatch of collected blood units. On a number of occasions, time-management and commercial consultants have been brought in to make the system even more efficient by redesigning the standardised layout of the beds in each centre through to computerising more and more of the communications and bookings.

Whilst this corporate, efficiency-driven side to the service is not hidden, it certainly is not promoted. The idea of a local, provincial service has proved very successful over the decades, and there is genuine reluctance to disturb what currently works – even though there is a growing awareness that these enduring representations may not be ‘fit for purpose’ for younger generations. The majority of donors have been giving blood for some time, and it is proving increasingly difficult to recruit new donors who attend more than the first two or three times. As a result, a large marketing department comprised of staff from the commercial sector are employed to maintain and actively recruit new donors.

After giving consent and filling out the questionnaire, donating consists of lying on a bed that is semi-partitioned off from the general hectic activities of the donation centre. A sleeve is rolled up, and then an initial set of small plastic containers are used to collect samples for testing for a number of conditions. Barcode stickers serve to link all the containers to both paper and computer record. After this, the cannula is connected, via a filter, to a blood bag which is gently rocked automatically by a machine to ensure it does not coagulate.

Almost half a litre of blood is taken and collected directly into the bag. These not only allow the blood to be transported easily, but later on the plasma, red blood cells, white cells and platelets all can be divided and extracted automatically at a processing centre for specific blood component therapies. It is not clear that many people are aware that their blood will be separated like this – the notion of direct donation and the integrity of blood as a vital substance is very entrenched and reflected in talk about their blood connecting with others in a system of exchange. For example, one man from North East London who, like others mentioned, was openly proud about his commitment to donating, said the following:

If I was honest, yes, I’d say I get a lot out of it. I feel good about myself. No, more than that, I feel that I’m a better person. Like they say, giving blood is being able to give life …

Perhaps surprisingly, only a few of the donors were inspired to donate because of some significant event, such as their own medical care or the clinical emergency of a friend or relative. Instead, the majority said they donated blood because a relative or close friend does so, and, of these, many spoke about encouraging their siblings to donate. Clearly, the notion of donating is a way of performing ‘blood relations’ as much as it is about giving blood to distant others. Many are proud of their commitment, with a number amused to say they could not help but ‘chase the numbers’ (i.e. number of sessions) and respond to the symbolic reward system the blood service operates.

There is no doubt that donors continue to evoke a notion of altruism – to be ‘socially useful’, and to ‘help others’. The following 63-year-old woman, from a town in Essex, used phrasing that was repeatedly used by many donors:

I just think that being able to give is important, it’s doing your bit. And anyway, what goes around comes around, as they say.

However, this observation that donors continue to see blood donation as a form of gift-giving does not in itself explain much in the way of their motives and attitudes, or necessarily imply that these have not changed over the decades. Rather, the idiom appears to remain a meaningful and flexible way to align multiple values and beliefs in relation to the contemporary context. So, for example, alongside references to giving and donating, the multiple cultural meanings of blood as a special kind of substance reveal how ideas of belonging and purity are equally central to the way many donors reflect on their motives for donating regularly. Blood symbolises life and therefore is more precious than anything else – as one 40-year-old male donor succinctly put it:

Blood is everything. I mean, they’ll always need donors, wont they. You can’t make it, there’s no substitute. Giving blood is like giving someone a second chance.

This theme of purity combined with that of altruism often expressed itself in forms of nationalism. Virtually everyone said that that voluntary donation acts not only in terms of altruism but as a kind selection procedure, ensuring people who might have ‘something to hide’ or ‘with the wrong motives’ are effectively excluded. Whether this was because of ideas of the computerised system or assumptions records might be linked to the NHS or some government database, no one mentioned the risk of disease transmission. Rather, the quality of blood was referred to in a different way, such as in the comment ‘you don’t want to introduce bad blood from bad people.’ Thus, donating was not a simplistic act of altruism, but giving to a like other – those who ‘shouldn’t be here anyway’ were viewed both as unlikely to donate and potentially undeserving. Some went further and implied that their donation to the blood service, as a ‘national’ entity, was in some ways demonstrable of a kind of patriotism. As one male donor emphatically announced after talking about this topic for a few minutes, and while looking over his shoulder to acknowledge the hectic operation conducted by the staff and donors behind him:

It’s just that my blood can go to others, you know, within the UK, who need it. It’s like we look after each other.

The overall sense is that giving blood ties bodies and people together, as much as it is driven by a sense of the social. But it is a closed network of circulating blood, contained in the various vessels and bodies of the collective. In this way, giving blood, and watching it flow along the transparent tubes into the blood bag, then seeing the blood bags placed into cool boxes, and maybe even then catching sight of the large transporter vehicle parked outside, confirms a very tangible network that links, and as a consequence, also excludes. The donor’s body is thereby ‘opened up’ not only for a future recipient, but the creation of a collective; bodies become joined through the many various practices associated with donation, connecting all the various people actively involved in its extraction, storage and transportation. The point is that the act of giving blood is a process of making a social group – not merely imagined, but material.

# Research

Today, however, a selection of donors is being asked if they could read an extra information sheet. It is about a research project that the blood service are conducting in parallel with medical researchers at Oxford and Cambridge University. The sheet emphasises that although there would be some online questionnaires to complete at a later date, only a very small sample of extra blood would be needed, taken alongside the other test samples before the main blood bag is filled. The information states that the research is to establish whether people can donate blood more regularly than the current 12 week stipulation without any harmful effects. But the documentation also says that the blood sample may well be used for further medical research, including genetic testing for future work into the causes of ill health across the population.

The study aims to recruit 50,000 donors attending the 25 fixed donating centres, tailoring repeat appointments according to a few basic variables to investigate the effects of greater blood donation on levels of iron and possible anaemia; the current practice of a 12-week minimum interval is based on little clinical evidence, and actually varies quite considerably from one country to another. In addition, data and samples of blood are also being stored for future epidemiological investigation – for example to run genetic analysis in order to identify possible clustering of biomarkers associated with cardiovascular disease. Of interest, therefore, is the extent to which the usual donor accounts might alter, and to what extent ideas of ‘the public’ as a collective are mobilised when people agree to participate in public health research.

One of the donors, a 49-year-old woman, hesitates. A staff member is there, who has been briefed about the research, and comes over to see if there are any specific questions that she has. They exchange a few words – and it transpires that she would prefer not to take part. So she goes over to the bed, and the donor staff member prepares her for the usual donation.

This person is not untypical. Despite training donation staff to integrate research consent and procedures, despite distributing leaflets in advance alongside the donor appointment information and despite trying to encourage people using posters, recruitment to this, the second of the two studies, has not been straightforward. During meetings, researchers attribute difficulties to various practical barriers, such as the extra time demands or the request for participants to complete the online questionnaires. What the team nevertheless find a little perplexing is why the so-called regulars, who are clearly so committed to donate blood and already are willing to reorganise their lives to be at a donation centre for at least an hour, who do not have a fear of needles and who are comfortable with the various bureaucratic procedures that are all part of regular donation, somehow find the relatively minor inconvenience of research participation so offputting. As one senior researcher informally said to me, ‘we have to find a way to sell it to people’. From his perspective, what needed to be ‘sold’ is the idea that donating a small vial of extra blood, and ultimately the data that can be extracted from it, has significant value. It might not be readily conceived of as saving a life, in the manner that the blood service emphasise, but nevertheless this kind of study has the potential to indirectly save many lives at the population level.

After about 30 minutes donation is complete. The regular samples and the extra research sample, if it is collected, are tracked by the same database and distributed by the same network. Once they arrive at one of the blood processing centre, the research samples are isolated, and sent on to the UK BioCentre where there are facilities for analysis and storage using automated processes and technical protocols similar to those previously used in UK Biobank. A full blood count is taken within a day, and then 6 ml of plasma and of serum are mixed with EDTA, an anticoagulant for long-term storage. The result is the creation of a bioresource for future studies.

Whilst I was not able to access donors who had refused to take part in the medical research, about half of the donors interviewed were nevertheless somewhat reticent about participating. Very few mentioned it was for some practical reason, for example that they did not have the time. As one donor surmised, ostensibly about why others might not have been happy to participate, but perhaps also talking about their own feelings:

I think the problem is with the word ‘taking’ blood. I’m here to give blood, but it’s as though they want to take some for their research …. I understand that this might help people one day, but it wouldn’t really be me helping them, would it?

This notion of blood samples, stored initially in large buildings at sub-zero temperatures, and later stored chiefly in just a digital form, contrasts with the kind of talk about the value of blood and blood donation that donors talk about. There is a strong sense that they see research as transforming their blood into data as it is eventually transported away to a lab that they have no sense of. The genetic information and physiological measures are not materially seen or imagined in terms of the interconnectedness of individuals – instead their blood is converted into knowledge which they no longer would ‘own’. A further problem is that the research seeks to take donors and invites them to see themselves within a future, and undetermined, study population, rather than the tangible sense of a social body that the donors normally experience. One 58-year-old female donor aptly put it like this:

I understand they don’t want much of my blood, so I’m ok with participating. But it does make you wonder who will actually benefit. I mean, it’s hardly going to be me, is it?

More generally, because donors understand the research as being about identifying whether some people are able to donate more frequently, some interpret this to mean that the sense of a donor collective is under threat and that the study will eventually differentiate donors, separating the sense of shared loyalty they attribute to others:

Although they don’t want much blood at all, because they just want to run tests on a drop or two, the research is about finding out who can give blood more often and who can’t. That’s fine for those who can, but what about people who they say can’t donate as much in the future? What are they meant to do?

In sum, the donors struggle because they contrast visualising the blood going to an imagined recipient – through the tubes and via the infrastructure of the blood services – with research, which is equated with unseen and unknown activities. Ideas of extraction rather than circulation mean that the substance of research escape ideas of the public body:

It’s funny, but when I see my blood being collected, I imagine it going to a person. And that’s what keeps me doing it. And I know that all they want to do is take a tiny amount more blood – but it’s my blood – and I don’t know where it would be going. What are they really going to do with it?

Discussion

In this paper, I have tried to convey how, in the act of donating, donors not only talk but perform connectedness. The result is that blood donation is aligned with a language of boundaries and purity, and of the closed system through which the blood as both a moral and natural good is perceived to circulate. At the centre are consequently ideas which generate notions of value not attributable to a single element, or simply the substance of blood itself, but to the association and linking up of different elements, and the notion of stability and security by which the public body is made and remade as a stable and enclosed entity. In contrast, the invitation to participate in a research project alongside their usual donation was experienced very differently. Despite the reality that only a tiny amount of blood was requested, some donors regarded participation as potentially being a process of extracting blood that could otherwise be used by themselves or an imagined recipient. Because of this, blood was thought of as being exported and used up, disrupting the sense of a collective and the motif of circulation.

Unlike typical donation, research participation was thereby frequently viewed with some trepidation; this was not, as researchers might assume, because of worries about data protection, anonymity, confidentially, or insurance concerns – none of these potential issues were raised spontaneously by any interviewees. Instead, donor participants simply talked about not being clear what exactly their donated blood would be ‘part of’. As one man, who has been a regular donor for over twenty years, expressed the issue, in a somewhat exasperated tone:

… who knows what will happen to the data in the future? Where will it go? It doesn’t matter how hard you try, there can always be leaks, or it can be used for wrong purposes. I don’t like the idea myself, sorry.

The underlying sense of not being able to imagine where data ‘goes’ or how it might be ‘stored’ both disrupts and denies how the donors usually think and understand their actions as collective. Anxiety emerges from the fact that both the real and imagined social relationships that congeal around the blood donation practices are absent – especially the tie between the donor and an imagined recipient. Instead, the research study has to be left to actively define new associations between people and new populations which, paradoxically, might deny any sense of the social collective that the donors themselves enact when they donate.

At the beginning of the paper, I rejected the metaphorical transformations Durkheimian-inspired social scientists regularly resort to in order to associate different kinds of bodies with each other, because they ultimately rely on a ‘natural’ body as the basis for those transformations and tend to suggest other kinds of bodies are ‘constructed’. I have tried instead to emphasise how the material practices of piercing the skin to extract blood, collecting it in bags, and then sending this off for storage and distribution, serve to construct and confirm an individual body and a public body in combination. In other words, rather than think about the individual biological body as preceding other kinds of symbolic construction, I have illustrated how bodies and a research population are constructed conterminously.

More generally, then, the paper illustrates how the notion of a population, so central to public health research, is no longer a given, unambiguous, entity that maps onto peoples’ everyday sense and experience of belonging to social collectives. Instead, it is a strategic creation that identifies and constructs a group of individuals according to particular hypotheses and research enquiries. Significantly, this is increasingly done after, Critical Public Health

rather than before, data collection. But in addition, since this process concerns the delineation of a particular grouping from a wide range of possibilities, it also determines what characteristics of bodies are contained within it (Leonelli, 2012). New, open research practices are consequently likely to shape not only particular populations but also how individual bodies are constructed; and how certain characteristics come to be central for some bodies to be ‘counted’ and others not. As a result, the status of the body and what governs both its uniqueness and similarity becomes fluid, since it is no longer defined by common-sense conceptualisations or people’s everyday practices, but from the details of how research studies are designed and implemented. In other words, rather than constituting the pre-existing entities necessary to make up populations, bodies are as much made up by the construction of new populations.

# Acknowledgements

I would like to thank all the donors who consented to be interviewed, the NHSBT staff who tolerated my presence during the very busy donation sessions, the collaborative research teams of the two studies, Cambridge CardioResource & INTERVAL, and in particular the support of NHSBT. Although not funding this qualitative study directly, Cambridge CardioResource was funded by the MRC, and INTERVAL by NHSBT. The research was conducted independently, and the views expressed in this paper are those of the author and not necessarily those of the research studies or of NHSBT. The final version and decision to submit for publication was determined by the author.

# References

Armstrong, D. (2012). Durkheim’s Body. Medical Sociology Online, 6, 16–20. Retrieved from [http://www.medicalsociologyonline.org/resources/Vol6Iss3/MSo-600x\_Durkheims\_Body\_Arm strong.pdf](http://www.medicalsociologyonline.org/resources/Vol6Iss3/MSo-600x_Durkheims_Body_Armstrong.pdf)

Busby, H. (2004). Blood donation for genetic research: What can we learn from donors’ narratives? In R. Tutton & O. Corrigan (Eds.), Genetic databases: Socio-ethical issues in the collection and use of DNA (pp. 39–56). London: Routledge.

Cambridge CardioResource. (n.d.). Retrieved from <http://www.phpc.cam.ac.uk/ceu/cardioresource/>

Carsten, J. (2013). Introduction: Blood will out. Journal of the Royal Anthropological Institute, 19, S1–S23. doi:[10.1111/1467-9655.12013](http://dx.doi.org/10.1111/1467-9655.12013)

Copeman, J. (2009). Introduction: Blood donation, bioeconomy, culture. Body & Society, 15(2), 1–28. doi:[10.1177/1357034X09103435](http://dx.doi.org/10.1177/1357034X09103435)

Curtis, B. (2002). Foucault on governmentality and population: The impossible discovery. Cahiers canadiens de sociologie [The Canadian Journal of Sociology], 27, 505–533.

Douglas, M. (1970). Natural symbols. London: Barrie & Rockliff.

Foucault, M. (2007). Lecture 3. In A. I. Davidson (Ed.), Security, territory, population. London: Palgrave Macmillan.

INTERVAL Study. (n.d.). Retrieved from <http://www.intervalstudy.org.uk/>

Latour, B. (2005). Reassembling the social: An introduction to ANT. Oxford: Oxford University

Press.

Leonelli, S. (2012). Introduction: Making sense of data-driven research in the biological and biomedical sciences. Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences, 43(1), 1–3. doi:[10.1016/ j.shpsc.2011.10.001](http://dx.doi.org/10.1016/j.shpsc.2011.10.001)

Mahon-Daly, P. M. (2012). Blood, society and the gift (A thesis submitted for the degree of Doctor of Philosophy by Patricia Mary Mahon-Daly). Brunel University, UK.

S. Cohn

McLean, I., & Poulton, J. (1986). Good blood, bad blood, and the market: The gift relationship revisited. Journal of Public Policy, 6, 431–445.

Meloni, M. (2013). Biology without biologism: Social theory in a postgenomic age. Sociology, 48, 731–746. doi:[10.1177/0038038513501944](http://dx.doi.org/10.1177/0038038513501944)

NHSBT Strategic Plan 2013–18. (n.d.). Retrieved from <http://www.nhsbt.nhs.uk/strategicplan/>

Petryna, A. (2009). When experiments travel: Clinical trials and the global search for human subjects. Princeton, NJ: Princeton University Press.

Rose, G. (1985). Sick individuals and sick populations. International Journal of Epidemiology, 14, 990–996. Retrieved from [http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid= 2566665&tool=pmcentrez&rendertype=abstract](http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2566665&amp;tool=pmcentrez&amp;rendertype=abstract)

Rose, N. (1996). The death of the social? Re-figuring the territory of government. Economy and Society, 25, 327–356.

Scheper-Hughes, N., & Lock, M. (1987). The mindful body: A prolegomenon to future work in medical anthropology. Medical Anthropology Quarterly, 1, 6–41.

Simpson, B. (2009). ‘Please Give a Drop of Blood’: Blood donation, conflict and the haematoglobal assemblage in. Body & Society, 15, 101–122. doi:[10.1177/1357034X09103439](http://dx.doi.org/10.1177/1357034X09103439)

Titmuss, R. (1970). The gift relationship: From human blood to social policy. London: George Allen and Unwin.

Tutton, R., & Prainsack, B. (2011). Enterprising or altruistic selves? Making up research subjects in genetics research. Sociology of Health & Illness, 33, 1081–1095. doi:[10.1111/j.14679566.2011.01348.x](http://dx.doi.org/10.1111/j.1467-9566.2011.01348.x)

Waldby, C., & Mitchell, R. (2006). Tissue economies. Durham, NC: Duke University Press.

Wynne Busby, H. (2010). Trust, nostalgia and narrative accounts of blood banking in England in the 21st century. Health: An Interdisciplinary Journal for the Social Study of Health, Illness and Medicine, 14, 369–382. doi:[10.1177/1363459309359717](http://dx.doi.org/10.1177/1363459309359717)